



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/515,239

03/06/2000

Ju Cheon Yeo

8733.20093

7949

30827

7590

04/21/2004

MCKENNA LONG & ALDRIDGE LLP  
1900 K STREET, NW  
WASHINGTON, DC 20006

EXAMINER

KUMAR, SRILAKSHMI K

ART UNIT

PAPER NUMBER

2675

19

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/515,239

**Applicant(s)**

YEO ET AL.

**Examiner**

Srilakshmi K. Kumar

**Art Unit**

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

The following office action is in response to Request for Reconsideration, filed December 24, 2003. No claims have been amended.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahan (GB 2,325,329 A) and in further view of Bassetti, Jr. (US 5,122,783).

As to independent claims 1 and 11, Ahan disclose a liquid crystal device and a method for driving a liquid crystal display device (Fig. 2), having a demultiplexer unit (Fig. 2, item 54) connected between a data driving circuit (40) and a plurality of data lines on a liquid crystal panel, the demultiplexer unit (54) distributing color data signals from any one of the output terminals of the data driving circuit to the plurality of data lines on the liquid crystal panel (Fig. 2, page 8, lines 24-page 9, lines 29 and page 6, line 31-page 7, line 5), the method comprising, classifying color data signals to be applied to the demultiplexer unit from the data driver circuit by colors (Fig. 2, page 8, lines 24-page 9, lines 29 and page 6, line 31-page 7, line 5);

Ahan do not teach consecutively providing the color data signals having a same color to the data lines by the demultiplexer unit before applying a different color. Bassetti disclose in Fig. 3A, and in col. 6, lines 47-68, where color data signals having a same color are

Art Unit: 2675

consecutively provided to the data lines before applying a different color. It would have been obvious to one of ordinary skill in the art to incorporate the feature of Bassetti into that of Ahan as they both teach a method of driving liquid crystal displays. The system of Bassetti is advantageous as it reduces the number of scanning lines, thus reducing power consumption and expense.

As to claims 2 and 12, limitations of claims 1 and 11, and further comprising wherein the color data signals are applied to the data lines on the liquid crystal panel in a combination of sequences of color data signals of red, green and blue (page 6, line 31-page 7, line 5).

As to claims 3 and 13, limitations of claims 2 and 12, and further comprising wherein the color data signals are applied to the data lines on the liquid crystal panel in a sequence of red, green and blue signals (page 6, line 31-page 7, line 5).

As to claims 4, 5, 14 and 15, limitations of claims 2 and 12, and further comprising wherein the color data signals are applied to the data lines on the liquid crystal panel in a sequence of green, blue and red signals or blue, red and green, (page 6, line 31-page 7, line 5).

Ahan and Bassetti do not state this explicit sequence. Further Bassetti state the RGB arrangement of the color filter is made as indicated in Fig. 3A, but it would have been obvious to one of ordinary skill in the art that the RGB arrangement is not limited to that in this mode, therefore the sequence of the color data signals can be changed as it would not make much difference of the order of the sequence of the signals.

As to claims 6 and 16, limitations of claims 1 and 11, and further comprising wherein the classifying step includes arranging the color data signals according to a sequence of dot inversion system (Bassetti, Fig. 3A) where each contiguous pixel of liquid crystal panel has a reverse

Art Unit: 2675

polarity. Although Ahan and Bassetti do not disclose where each contiguous pixel of the liquid crystal panel has a reverse polarity, it would have been obvious to one of ordinary skill in the art that this feature could have been present as this feature enables higher resolution and picture quality.

As to claims 7 and 17, limitations of claims 1 and 10, and further comprising wherein the demultiplexer unit includes a plurality of demultiplexers as shown in Fig. 8, item 25.

As to claims 8, 10, 18 and 20, limitations of claims 7 and 17, and further comprising wherein each of the plurality of the demultiplexers is connected to at least five or in multiple of six data lines on the liquid crystal panel. Though Ahan, in Fig. 2, shows the data lines (DL1 to DL2400) connected to the demultiplexer (54), it would have been obvious to one of ordinary skill in the art to be able to increase the data lines to five or six as this would enable higher resolution and increased picture quality in the liquid crystal display.

As to claims 9 and 19, limitations of claims 7 and 17, and further comprising wherein each of the plurality of demultiplexers is connected to an odd number of data lines as shown in Fig. 2.

### ***Response to Arguments***

3. Applicant's arguments filed March 17, 2003 have been fully considered but they are not persuasive.

With respect to applicant's arguments of independent claims 1 and 11, examiner respectfully disagrees. Applicant discloses where Ahan and Bassetti et al do not disclose where "consecutively providing the color data signals having a same color to the data lines by the demultiplexer unit before applying a different color signal." Bassetti discloses in Fig. 3A and in

Art Unit: 2675

col. 7, lines 1-31 for consecutively providing the color data signals having the same color before applying a different color. Bassetti discloses where the sub-areas are energized, where the sub areas are shown in col. 6, lines 52, to be items 311, 312 and 313, which are individual colors. Further, in col. 8, lines 5-20, Bassetti discloses short duration energizing pulses are applied to the color producing subpixels simultaneously. Thus it is shown by Bassetti that each sub area is energized. Examiner maintains the above rejection.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srilakshmi K. Kumar whose telephone number is 703 306 5575. The examiner can normally be reached on 8:00 am to 4:30 pm.

Art Unit: 2675

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven J. Saras can be reached on 703 305 9720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Srilakshmi K. Kumar  
Examiner  
Art Unit 2675

SKK  
April 17, 2004

  
DENNIS-DOON CHOW  
PRIMARY EXAMINER